

Cz114

MANGANESE BRONZE

DESCRIPTION

High Tensile Brass are alloys of Copper and Zinc. CZ114 is a duplex or alpha/beta alloy. Brass alloy CZ114 is a versatile high strength, hot workable, machinable engineering alloy sometimes referred to as a Manganese Bronze or High Tensile Brass.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	56.50	58.50
Pb	0.50	1.50
Sn	0.20	0.80
Fe	0.30	1.00
Al	-	1.50
Mn	0.50	2.00
Total Others	-	0.50
Zn	Remainder	

MECHANICAL PROPERTIES CZ114 (AS PER TEMPER M)

Range (mm)	From	To	UTS Min (N/mm ²)	PS Min (N/mm ²)	Elo Min (%)	Hardness Min	Hardness Max
Round (Dia)	1.5	18	460	270	12	-	-
	18	40	440	250	15	-	-
	40	75	440	210	18	-	-
Hex (A/F)	3	18	460	270	12	-	-
	18	40	440	250	15	-	-
	40	-	440	210	18	-	-
Square (A/F)	3	18	460	270	12	-	-
	18	40	440	250	15	-	-
	40	60	440	210	18	-	-
Rectangle (Thickness)	3	18	460	270	12	-	-
	18	40	440	250	15	-	-
	40	50	440	210	18	-	-

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PHYSICAL PROPERTIES

Melting Point	865°C
Density	8.63g/cm ³
Electrical Conductivity	0.09 x 10 ⁻⁶ Ω.m
Thermal Conductivity	88.3W/m.K
Modulus of Elasticity	96.5 GPa

FABRICATION PROPERTIES

Capacity for being Cold formed	Poor
Capacity for being Hot worked	Good
Machinability Ration	30%
Resistance to Corrosion	Excellent
Suitability for soldering	Excellent

TYPICAL USES

- Gas valves and fittings
- Fasteners
- Pump trim
- Gears
- Locks
- Heavy-duty electrical connectors
- Transmission components
- Marine hardware
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